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DEVELOPMENT AND INITIAL VALIDATION OF A CULTURALLY RESPONSIVE
CLASSROOM CLIMATE SCALE

A Thesis

Submitted to the Faculty

of

Purdue University

by

Horane A Holgate

In Partial Fulfillment of the

Requirements for the Degree

of

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DEVELOPMENT AND INITIAL VALIDATION OF A CULTURALLY RESPONSIVE CLASSROOM CLIMATE SCALE

For the degree of Master of Science in Education

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Date

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ABSTRACT

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This study describes the development and initial validation for a measure of a culturally responsive classroom climate in postsecondary classrooms. By examining multiple frameworks of culturally responsive teaching four factors were identified as representing cultural responsiveness in the classroom: inclusiveness, cultural inclusion, diverse language and diverse pedagogy. Using these factors and conceptual definitions a survey measure was developed and the overall factor structure and reliability of the measure examined using Exploratory and Confirmatory Factor Analysis. The results provide evidence for a second order factor model with cultural responsiveness as a higher order construct represented by four factors. The results are discussed in relation to theoretical considerations for assessing classroom climate as well as the importance of cultivating culturally responsive classroom environments at the college level.

CHAPTER 1. INTRODUCTION

1.1 Introduction

The classroom environment plays a crucial role in how, as well as what, students learn. Students' perceptions of the classroom climate or environment has implications for motivation, engagement, achievement, learning, as well as psychological and cultural development. The term learning environment is often used interchangeably with classroom climate; other terms include ambience, atmosphere, ecology and milieu (Adelman & Taylor, 2005; MacAulay, 1990). Throughout this paper classroom environment, learning environment, learning climate and classroom climate are used interchangeably.

The assessment of students' perceptions of the classroom climate is well documented by motivation and learning environment researchers. However, the factors considered as part of the classroom climate almost exclusively focus on psychosocial factors which represent the social climate of the classroom. These factors include but are not limited to: cohesiveness, equity (fairness), teacher support, student support, interaction and participation, respect (Fraser, 1998; Patrick, Kaplan & Ryan, 2011; Pickett & Fraser, 2010), autonomy – support (Black & Deci, 2000; Reeve, 2002; Ryan & Deci, 2000) and mastery classroom goal structure (Ames, 1992).

Another area of research in classroom environment is Multicultural Education (ME) (Banks, 2005, 2013) specifically as it relates to culturally responsive or inclusive classroom environments (Brown, 2007; Montgomery, 2001). The factors considered in creating a culturally responsive classroom environment integrate cultural (e.g. experiences in the home, community, race, ethnicity, nationality) and structural factors (e.g. discourses of power, privilege, social inequalities, policies, socio – economic status, and poverty) that impact students' and teachers' experiences in the classroom and the overall teaching and learning process. The conceptualization of the culturally responsive classroom environment is based on frameworks of culturally responsive and relevant teaching/pedagogy (Gay, 2000, 2002; Ladson – Billings, 1995a, 1995b, 2014). In ME research, the assessment of students' perceptions of the classroom environment is not examined (Dickson, Chun & Fernandez, 2016) as much as in learning environment and motivation research.

Assessments of students' perceptions of classroom environment have traditionally been with students at the primary and secondary level (Treagust & Fraser, 1986). In multiple reviews of classroom environment research (Fraser, 1989, 1998), very few measures assess the classroom climate in postsecondary classes. Additionally, the factors which are assessed on these measures are generally related to the psychosocial factors associated with the classroom climate. Similar to learning environment and motivation research where the emphasis is on assessing classroom climate at the primary and secondary level; ME researchers almost exclusively focus on documenting evidence of cultural responsiveness at the primary and secondary level. Research on cultural

responsiveness in college classrooms is sparse, as well as the examination of culturally responsive and relevant teaching with educators in higher education (Han et al., 2014). The present study contributes to the research on classroom environment, specifically the assessment of cultural and structural factors that influence the classroom climate at the college level. The socially responsive classroom environment emphasizes the social factors (psychological, emotional, and affective) which contribute to developing a positive classroom climate. Alternatively, culturally responsive environments are those that emphasize cultural and structural factors (race, ethnicity, nationality, socio – economic status, political policies, religion, power and privilege) as important in developing the classroom climate.

This paper describes the development and initial validation of a measure for culturally responsive classroom environment for use in postsecondary education classrooms. Different ME frameworks related to culturally responsive and relevant teaching (Brown-Jeffy & Cooper, 2011; Gay, 2000, 2002; Ladson – Billings, 1995a, 1995b, 2014; Siwatu, 2007; Wlodkowski & Ginsberg, 1995) were used to identify factors to consider in a culturally responsive classroom. It was important to review multiple frameworks and conceptualizations of culturally responsive/relevant teaching because different researchers would use different terminologies to describe the meaning and enactment of culturally responsive teaching.

The objective of this project was not to examine the breadth of the classroom climate literature including learning environment, motivation and multicultural education. Rather, the focus here is on the examination of the conceptualization of classroom climate based on multicultural education research (Brown-Jeffy & Cooper, 2011;

Dickson, Chun & Fernandez, 2016; Gay, 2000, 2002; Ladson – Billings, 1995a, 1995b, 2014). This approach was taken because of the primary question which provided the impetus for examining the cultural responsiveness of the college classroom. What are the characteristics or features of a culturally responsive classroom environment and what does it look like?

This paper discusses one of two studies which was conducted to provide initial validation for a student measure of a culturally responsive classroom climate. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were used to examine the factor structure (i.e. the relationship between the hypothesized characteristics or factors and the items on the measure) and internal consistency of the measure (extent to which items for each construct measure the same dimensions) was examined using Cronbach Alpha. In the subsequent sections, I review the main theoretical frameworks guiding this inquiry and used in the development of the measure. The procedures used in the development and validation of the measure are described followed by the presentation and discussion of the results for the study. Finally, the importance of assessing and cultivating culturally responsive classroom climate in postsecondary classrooms is discussed.

1.2 Multicultural Education and Culturally Responsive/Relevant Teaching

The overarching theoretical perspective which informs research and practice that is characterized as culturally responsive or relevant teaching is Multicultural Education (ME). Multicultural Education is defined as both a philosophical concept and a process. As a philosophical concept, the discipline is built on the ideals of freedom, justice,

equality, equity, and human dignity. It affirms the need to prepare and empower students with the attitudes and values to take on the responsibilities as citizens in an interdependent world and building a democratic society. As a process, ME is integrated within all aspects of education to ensure high levels of academic achievement for all students, develop positive self – concept through knowledge about history, culture and contributions of diverse groups (The National Association for Multicultural Education, 2016).

The ME approach directly emphasizes the development of: knowledge, skills and dispositions through education to empower teachers and students. They are empowered to challenge structural inequities related to race, class, gender, age, religion and other social issues which oppose the ideals of social justice, equality, equity and democracy in society. Multicultural Education covers a broad scope, consequently, there is range for varied interpretations and means of fulfilling the different goals. The primary principles of ME start with using students' life histories and experiences as the center piece for teaching and learning; using pedagogy that incorporates and addresses several ways of thinking; and engaging in critical analysis of oppression and power relations in communities, society and the world (Banks, 2005; The National Association for Multicultural Education, 2016). A ME approach to teaching and learning has often been described as education for ethnically diverse or traditionally underrepresented groups. However, through its evolution ME has begun to incorporate not just an ethnic perspective but a global dimension as well (Banks, 2013).

It is evident in the literature that the principles of ME have been described in different ways over time. This has resulted in a myriad of terminologies, constructs, and

frameworks which have a common underlying premise but with different names (Aronson & Laughter, 2015; Siwatu, 2007; Sleeter, 2012). Some of these concepts include: culturally responsive teaching (Gay, 2000, 2002, 2013), culturally relevant pedagogy/teaching (Ladson – Billings, 1995a, 1995b, 2014), culturally appropriate instruction and culturally congruent (Au, 1980; Au & Jordan, 1981), culturally pluralistic (Gay, 1975), culturally compatible (Jordan, 1985), culturally responsive education, social justice education, democratic education, critical pedagogy (Dover, 2013), culturally relevant education (Aronson & Laughter, 2015), culturally sustaining pedagogy (Paris, 2012) and equity pedagogy (Banks & Banks, 1995). Other terms which have been used include culturally inclusive, cross – cultural education, and inclusive pedagogy.

Despite the plethora of terminologies, each term to some degree represents aspects of ME. The most frequently used terms in the literature and perhaps the most highly referenced is culturally responsive teaching (Gay, 2000, 2002, 2013) and culturally relevant pedagogy/teaching (Ladson – Billings, 1995a, 1995b, 2014). These terms can be described as somewhat inclusive of different elements of ME in the teaching and learning process. However, although sharing similar underlying tenets and the same guiding principles of teaching for social justice and the classroom as a site of social change, it has been suggested that there is also a distinction between culturally responsive teaching and culturally relevant pedagogy based on the original conceptualization by the original scholars (Aronson & Laughter, 2015). Culturally responsive teaching (Gay, 2002, 2013) they suggest is focused on teacher practice while culturally relevant pedagogy (Ladson – Billings, 1995a, 1995b, 2014) is focused on teacher posture (Aronson & Laughter, 2015).

The conceptualization of culturally relevant teaching/pedagogy and culturally responsive teaching have also been integrated with different but similar philosophies in an attempt to develop frameworks to bring about consensus and operationalize the construct. Brown - Jeffy and Cooper (2011) developed a conceptual framework for culturally relevant pedagogy through the lens of Critical Race Theory (CRT). Wldrowski and Ginsberg (1995) developed a motivational framework for culturally responsive teaching based on Self – Determination Theory (SDT); (Deci, Vallerand, Pelletier & Ryan, 1991; Deci & Ryan, 2002; Ryan & Deci, 2000). Recently, some scholars have also attempted to provide clarity of the culturally responsive teaching and relevant pedagogy construct by using the term Culturally Relevant Education (CRE) (Dover, 2013; Aronson & Laughter, 2015) and providing a conceptual framework as well.

The goal here is not to discuss the subtle distinctions and variations among the different terms or frameworks. Rather, the goal is to point out the myriad of terminologies and highlight the challenge this presents with operationalizing, thereby assessing and defining what a culturally responsive classroom climate looks like. However, having different conceptualizations through different lenses demonstrates the strong theoretical principles which guide the research and practice in ME. This shows that there are strong theoretical grounds for culturally responsive classroom environments. In the next section, I review the different culturally responsive/relevant teaching frameworks used to develop the measure beginning with the assumptions and conceptual definitions.

1.3 Culturally Responsive/Relevant Frameworks, Teachers and Climate

Culturally responsive/relevant teaching begins with the assumption that students find academic knowledge and skills as being more personally meaningful, having higher interest appeal, are more likely to learn them more profoundly and easily when they are situated within their individual lived experiences and frames of reference (Gay, 2000). Another important assumption is that the classroom is the site of social change, therefore, educational experiences should be structured in ways that empower students collectively to bring about changes in the society (Aronson & Laughter, 2015; Ladson – Billings, 1995a). Essentially, all culturally responsive/relevant teaching frameworks identify with using cultural referents of students in the classroom to empower them to challenge social inequities in society. Gay (2000, 2002) defines culturally responsive teaching as using cultural knowledge, prior experiences, frames of reference and styles of performance of ethnically diverse students to make their learning more relevant and effective.

It is important to note that Gay's conceptualization of culturally responsive teaching begins by emphasizing teacher practices and what teachers need to know and should do. Five essential elements of culturally responsive teaching are: 1) developing a culturally diverse knowledge base, 2) including cultural diversity content in the curriculum, 3) demonstrating caring and building learning communities, 4) communicating with ethnically diverse students and 5) responding to ethnic diversity in the delivery of instruction (cultural congruity in classroom instruction) (Gay, 2002; Brown, 2007). She proposed the following dimensions of culturally responsive teaching which emphasize characteristics of culturally responsive teachers. These teachers are: 1) socially and academically empowering, 2) multidimensional, 3) socially, culturally,

politically and emotionally aware, 4) transformative, 5) emancipatory and 6) culturally validating (Gay, 2010 cited in Aronson & Laughter, 2015). The definitions of these concepts and for all others which will be mentioned in this paper are provided in Table 1. Ladson – Billings (1995a, 1995b, 2014) defines culturally relevant teaching as pedagogy that emphasizes collective empowerment and not just for the individual. Additionally, it empowers students intellectually, socially, emotionally and politically through the use of cultural referents to impart knowledge, skills and attitudes. She identifies three criteria for culturally responsive pedagogy: 1) high expectations for students' academic success, 2) development and maintenance of cultural competence; and 3) development of critical or sociopolitical consciousness.

Brown – Jeffy and Cooper (2011) developed a conceptual framework of culturally relevant pedagogy which included five major themes: 1) identity and achievement, 2) equity and excellence, 3) developmental appropriateness, 4) teaching the whole child, and 5) student-teacher relationships. These themes are described in conjunction with a Critical Race Theory underpinning in an effort to explicitly address racial characteristics which are evident in the American education system. They acknowledge as do I, that using CRP demands knowledge of who children (and students as a whole) are, how they perceive themselves and how the world perceives them. Related to cultivating a culturally responsive classroom, it is paramount that both educators and students are aware of the role their individual identities play in influencing perceptions of interactions in a given context.

Wlodkowski and Ginsberg (1995) maintain that in order for teachers to be effective in a multicultural classroom they must be able to relate the teaching of content

to the cultural background of their students. In their motivational framework for culturally responsive teaching, they identify four intersecting motivational goals: 1) inclusion, 2) developing attitude, 3) enhancing meaning and 4) engendering competence. In the context of the college classroom, a motivational conceptualization of culturally responsive teaching allows educators to make more explicit connections between students' social and psychological needs with their cultural needs. Cultural needs in this sense involves validating students' cultural background, heritage and language or that of others in the class and in society as whole. The satisfaction of the cultural needs is important particularly for students who are not from the dominant cultural group which is represented in the class and wider society. Furthermore, I argue that the satisfaction of cultural needs is not only for the benefit of students from underrepresented groups in the classroom (e.g. international students) or backgrounds that have been traditionally minoritized (e.g. African American, Black, Latino, Hispanic, Asian American, Pacific Islander, Native American) (Benitez, 2010 cited in Stewart, 2013) in academic spaces. Rather the satisfaction of cultural needs is for students who are a part of the dominant culture as well, since all students have individual cultural identities which guide their behaviors, actions and perceptions of the classroom climate.

In addition to the aforementioned frameworks and definitions, I reviewed the factors identified by previous researchers on measures of culturally responsive teaching. To my knowledge, at the start of the present study there were three measures of culturally responsive teaching but only one which assessed students' perceptions developed to be used at the primary and secondary level specifically with Latino/a and Hispanic students. Siwatu (2007) developed two measures to assess the development of culturally

responsive teaching competencies: The Culturally Responsive Teaching Self-Efficacy Scale (CRTSE) and the Culturally Responsive Teaching Outcome Expectancy (CRTOE) Scale. Both measures were developed to be used with preservice teachers. However, these measures do not assess the preservice teachers' perceptions of their classroom climate as culturally and/or socially responsive. The Culturally Responsive Teaching Self-Efficacy Scale (CRTSE) assesses teachers' beliefs in their ability to execute specific teaching practices and tasks that are associated with culturally responsive teachers.

The Culturally Responsive Teaching Outcome Expectancy (CRTOE) Scale assess teachers' beliefs that engaging in culturally responsive teaching practices will have positive classroom and student outcomes. Both measures primarily focus on preservice teachers' beliefs about using culturally responsive teaching and seeing the expected outcomes. However, the relevance of Siwatu's (2007) work on assessing teacher competencies which informs the current study are the four major facets of culturally responsive teaching which were used to develop the measure. The four broad themes of culturally responsive teaching identified are: curriculum and instruction, classroom management, student assessment and cultural enrichment and competence (see conceptual definitions in Table 1). These concepts represent a general consensus that guide a culturally responsive pedagogy approach to teaching and learning (Siwatu, 2007).

Dickson, Chun and Fernandez (2016) developed a measure of students' perceptions of culturally responsive teaching practices in middle school classrooms. The measure was created by modifying the items on the Culturally Responsive Teaching Self – Efficacy (CRTSE) (Siwatu, 2007). The creators of the Student Measure of Culturally Responsive Teaching (SMCRT) modified survey items on the CRTSE which reflected

culturally responsive teaching practices to represent teaching practices that were directly observable by students. A sample item from the CRTSE for example “Use my students’ cultural background to help make learning more meaningful,” reflecting the teacher’s perspective was modified to read “My teacher(s) use examples from my culture when teaching” (Dickson, Chun & Fernandez, 2016). The measure has 21 items representing three factors of culturally responsive teaching which the researchers identified as diverse language affirmation, cultural engagement, and diverse teaching practices. The scores on the SMCRT were found to correlate highly with measures of perceived teacher – support (.64) and perceived school belonging (.50). The SMCRT provides initial evidence of the validity of the culturally responsive construct and is perhaps the first measure of students’ perceptions. Dickson, Chun and Fernandez (2016) to my knowledge are the first to explore statistically the different factors of the culturally responsive classroom by examining students’ perceptions. They found evidence supporting cultural responsiveness as a higher order construct with three sub – constructs: diverse language affirmation, cultural engagement, and diverse teaching practices using confirmatory factor analysis.

Table 1

Review of Culturally Responsive/Relevant Teaching Frameworks, Conceptual Definitions and Main Themes

Author	Framework	Main Themes and Conceptual Definitions
Ladson – Billings (1995a,1995b, 2014) Brown (2007)	Culturally Relevant Teaching Culturally Relevant Pedagogy (CRP)	<p>High Expectations and Academic Success – Developing literacy, numeracy, technological, social and political skills. Through diverse pedagogies develop students’ knowledge and skills in the respective subject areas.</p> <p>Cultural Competence – Developing healthy cultural identities and utilizing students’ culture as the vehicle for learning. Integrate students’ cultural identities, beliefs and practices as well as that of the wider culture to facilitate student learning and give them access to the knowledge and tools needed to succeed in the classroom and make decisions about their lives</p> <p>Sociopolitical/Critical Consciousness – Developing critical consciousness and awareness to critique cultural norms, values, mores and institutions that produce and maintain social equality. Addressing the power dynamics within society, and recognizing inequities and injustices in society.</p>
Gay (1975, 2000, 2002, 2013) Aronson & Laughter (2015) Brown (2007)	Culturally Responsive Teaching	<p>Social and Academic Empowerment - high expectations for students with a commitment to every student’s success.</p> <p>Multidimensional - Engaging cultural knowledge, experiences, contributions, and perspectives</p> <p>Cultural Validation - Bridging gaps between school and home through diversified instructional strategies and multicultural curricula</p> <p>Transformation - Using students’ existing strengths to drive instruction, assessment, and curriculum design to change schools and society</p> <p>Emancipation and Liberation - Questioning oppressive educational practices and ideologies</p> <p>Socially, Emotionally and Politically Aware – Educating the whole child</p> <p>Cultural Diverse Knowledge Base – Explicit knowledge about cultural diversity; understanding cultural characteristics and contributions of different groups.</p> <p>Culturally Relevant Curricular – Deals directly with controversy, examining wide range of ethnic individuals and groups and including multiple types of perspectives</p> <p>Cultural Caring and Building Learning Community – Establishing reciprocity between students and teachers to improve learning, focus on holistic and integrated learning, using cultural scaffolding (using students’ cultures and experiences to expand their intellectual horizons and academic achievement).</p> <p>Establishing Cross Cultural Communications – Deciphering students’ cultural codes and understanding different communication styles among students from different backgrounds.</p> <p>Cultural Congruity in Instruction – Matching instructional techniques to students’ styles of learning and using multicultural instructional examples for students from culturally and linguistically diverse backgrounds.</p>
Brown-Jeffy & Cooper (2011)	Culturally Relevant Pedagogy through Critical Race Theory	<p>Identity and Achievement – developing culturally identity, affirming diversity, validating home – community cultures, using multiple perspectives, cultural heritage</p> <p>Equity and Excellence – high expectations for all, incorporating multicultural content, equal access, equity – giving students what they need</p> <p>Developmental Appropriateness – Awareness of cognitive and psychological development, cultural variation in psychological needs, teaching and learning styles, and dominant or racist non – inclusive pedagogy</p> <p>Teaching Whole Child – skill development in a cultural context, home-school-community collaboration, learning outcomes, supportive learning community, and empowerment sensitivity to how culture, race, and ethnicity influence the academic, social, emotional, and psychological development of student</p>

		Student Teacher Relationships – building caring relationships, respecting students for who they are as members of a cultural group, classroom atmosphere.
Wlodkowski & Ginsberg (1995)	Motivational framework for culturally responsive teaching based on Self – Determination Theory (SDT)	Engender Competence – Creating an understanding that learners are effective in learning something they value Develop Positive Attitude – Creating a favorable disposition toward the learning experience through personal relevance and choice Enhance Meaning – Creating challenging, thoughtful learning experiences that include learners’ perspectives and values Establish Inclusion – Creating a learning atmosphere in which learners and instructors feel respected by and connected to one another
Siwatu (2007, 2011)	Measures of teacher self- efficacy and outcome expectancy for Culturally Responsive Teaching	Curriculum and Instruction - Using students’ cultural knowledge and prior experiences to enhance the reciprocal process of teaching and learning Classroom Management - the facilitation of a classroom environment that values the unique cultural background of all students Student Assessment – Using various assignments to assess student learning Cultural Enrichment and Competence – Promoting knowledge and skills necessary for success in a pluralistic society and the affirmation of different cultures and languages.
Dickson, Chun & Fernandez (2016)	Factors for Student Measure of Culturally Responsive Teaching (SMCRT)	Language Affirmation Students’ assessment of their teachers’ acknowledgment of the value of languages other than English by speaking, at times, in Spanish. Cultural Engagement - Students’ assessment of the extent to which their teachers incorporate cultural information and discussions of students’ cultural values in learning activities Diverse Teaching Practice – Students’ assessment of their teachers’ use of diverse teaching methods, the extent to which their teachers provide supports to help students to meet high academic and behavioral expectations, and promote a climate of mutual respect

A culturally responsive classroom environment gives special acknowledgment to culturally diverse students and the need for such students to see relevant connections among themselves, the subject matter as well as the tasks they are asked to perform by teachers. Effective teaching and learning in a culturally responsive classroom is represented by a culturally supported, learner – centered context in which student achievement is promoted by identifying, nurturing and utilizing the strengths students bring into the classroom (Richards, Brown, Forde, 2007; Villegas & Lucas, 2002).

Enacting culturally responsive pedagogy as well as cultivating and managing a culturally responsive classroom climate requires understanding: “the self” (acknowledging individual biases and assumptions about human behavior); “the other” (awareness of

diversity with respect to race, gender, ethnicity and social class) and the educational context (recognizing the structure of schools and how they reflect discriminatory practices in larger society (Weinstein, Curran & Tomlinson-Clarke, 2003).

Culturally responsive educators: identify strongly with teaching, encourage students to learn from each other, create a sense of community and bond with all students', engage in the community to which they belong (Ladson – Billings, 1995b). They have and employ constructivist views of learning, have affirming attitudes to students from culturally diverse backgrounds, demonstrate commitment and skills to enact social change; encourage students to think critically, challenge students to strive for excellence as well as assist students in becoming socially and politically conscious (Gay, 2002; Richards, Brown, Forde, 2007; Villegas & Lucas, 2002). This by no means represents all the characteristics of a culturally responsive teacher or the different facets of the culturally responsive classroom. However, this provides insights on how culturally responsive classroom climate can be cultivated as well as the dispositions of the instructor who will be able to effectively cultivate such a classroom climate.

From a multicultural perspective through the lens of culturally responsive teaching the following conclusions can be drawn about a culturally responsive classroom, what it looks like and how it is created. A culturally responsive classroom environment places explicit emphasis on prior experiences and cultural knowledge of educators and students. Both the educators and students' beliefs as well as expectations about academic competence are pivotal. In addition, awareness about issues involving social justice, power and equity among different groups are paramount to achieving educational outcomes. The outcomes are not only academic but cultural, and political as well. To this

extent, cultural responsiveness or a culturally responsive classroom climate in a college setting involves acknowledging, validating and intentionally supporting diversity of all kinds (race, ethnicity, gender, class etc.).

The culturally responsive frameworks and conceptualizations reviewed in this section highlight three contentions which provide justification for conducting the study. First, the culturally responsive/relevant teaching approach almost exclusively focuses on the teacher practices in the classroom with little emphasis on the role of the student in the classroom in influencing the classroom climate. While it is the teacher's job to create the classroom climate, it is important to consider how the students perceive the teacher actions and their reactions in the classroom environment. Additionally, the role of the students as agents in classroom who contribute to the overall climate of classroom is also important. The emphasis on teacher practices is also focused on preservice teacher preparation and on teaching and learning up to the secondary level.

Second, recognizing that the culturally responsive teaching approach places significant emphasis on students from culturally and linguistically diverse backgrounds raises questions as to effectiveness of this approach for all students. It is not assumed that creating a culturally responsive classroom environment will undermine or marginalize students from the dominant cultural group. Rather, it is assumed that the all students in the classroom bring unique experiences which influences the overall classroom climate. Therefore, the instructor's awareness of the cultural differences among the students present in the classroom is fundamental to cultivating a culturally responsive learning climate. To this extent, cultural responsiveness in the classroom is not limited to those cultural or linguistic identities present in the classroom but outside the classroom as well.

Therefore, the classroom climate is cultivated in way that is not only responsive to what is happening and who is present in the class but the wider society as well.

Third and lastly, the different conceptualizations of culturally responsive/relevant teaching and by extension the cultivation of a culturally responsive classroom climate highlights that there is significant overlap among the frameworks. This demonstrates the need to identify the different points of convergence in order to identify and examine features of a culturally responsive classroom climate. The present study was conducted with the intension of providing greater clarity concerning these contentions. Additionally, it is expected that the present study will expand our conceptual understanding of the cultural responsiveness construct with implications for practice in teaching and learning at the college level.

CHAPTER 2. OVERVIEW OF RESEARCH PURPOSE AND STUDY

The primary purpose of the study was to identify and examine the salient characteristics of a culturally responsive classroom environment by developing and validating a measure of classroom climate. First, based on a review of theoretical frameworks in Multicultural Education specifically CRT I identified factors that would represent cultural responsiveness in the classroom. After identifying these factors, I developed conceptual definitions and created specific items for each factor. Two studies were conducted to examine the overall factor structure of the measure and the reliability of the different factors as well as the overall measure. In study one which is the focus of this paper the overall process of selecting the factors to consider, writing the items and examining the overall structure using EFA and CFA statistical procedure is described and discussed. Based on the review of literature four concepts were identified as key elements to consider in a culturally responsive classroom. These are: *cultural inclusion, diverse pedagogy, diverse language and inclusiveness*.

It was assumed that the four factors were highly correlated, nonetheless each factor was necessary. The culturally responsive teaching frameworks and conceptualizations call for an explicit emphasis on cultural, linguistic, communal and critical pedagogical awareness and empowerment for teachers and students. To this extent, I assumed that in

order to operationalize and examine the construct in a practical setting, separating the different factors would provide greater clarity. Previous work examined culturally responsive teaching represented as one main construct (Siwatu, 2007) and as a higher order construct represented by three factors (Dickson, Chun & Fernandez, 2016). The present study assumes the latter but attempts to expand this conceptualization by proposing a high order construct represented by four factors. Identifying the fourth factor was proposed as means to provide greater clarity on different aspects of culturally responsiveness which would provide the means for more intentional and targeted efforts to cultivating culturally responsive classroom environments. The four factors identified are described subsequently – cultural inclusion, diverse pedagogy, diverse language and inclusiveness.

2.1 Cultural Inclusion.

The concept of *cultural inclusion* is an important aspect of the culturally responsive classroom climate. Cultural Inclusion in this study is defined simply as demonstrating awareness and interest in students' cultural backgrounds and other cultures. The decision to use such a broad and non – specific definition was to provide range in writing items for the concept as well as to include the different perspectives used by the different frameworks. To this extent, *cultural inclusion* as defined here represents the concepts that the culturally responsive classroom environment: is multidimensional and validates students' cultural backgrounds (Gay, 2000, 2002, 2013); contributes to the development of cultural competence Ladson – Billings (1995a, 1995b, 2014); provides cultural enrichment (Siwatu, 2007); includes cultural information and discussions in activities (Dickson, Chun & Fernandez, 2016), represents the learners' perspectives,

learning is of personal relevance (Wlodkowski & Ginsberg, 1995) and identity (Brown-Jeffy & Cooper, 2011).

2.2 Diverse Pedagogy

Diverse Pedagogy is defined simply as use of different instructional and assessment practices which allow students to develop knowledge and skills related to academic content and reflecting on critical issues. This concept was thought of in relation to different pedagogical approaches such as: constructivist approach, critical inquiry, cooperative and collaborative learning, formative as well as summative assessments. The culturally responsive classroom in this sense involves: various assessments of student learning and types of instruction (Siwatu, 2007); emphasizes skill development, expectations for academic competence, success and empowerment, taking into account developmental appropriateness, meeting students where they are, as well as emphasizing reflection and reciprocity in teaching and learning. This concept also includes supporting critical thinking not just about academic content but social issues related to religion, race, gender, class and ethnicity and providing means of building awareness and making changes in society. To this extent the pedagogy used in culturally responsive classroom is transformative, promotes liberation and emancipation, it is socio-politically critical (Gay, 2000, 2002, 2013; Ladson – Billings, 1995a, 1995b, 2014). The pedagogy is described as diverse because it represents the use of multiple instructional and assessment practices as well as emphasizes critical inquiry about society.

2.3 Diverse Language

This is separate from *cultural inclusion* because the frameworks call for acknowledging students' language as one of the tools students bring in the classroom

which help them learn. This concept was defined simply as openness to using different languages as well as acknowledgement of those who speak different languages and being sensitive to their needs. To this extent the culturally responsive classroom: considers the whole child, contributes to developing and maintaining cultural identity as well as affirming and acknowledging how students with different linguistic abilities learn as well as use their language as a tool in the teaching and learning process.

2.4 Inclusiveness

The concept of inclusiveness in the culturally responsive classroom environment is defined simply as a safe space. Inclusiveness constitutes building connections and relationships as well as respecting each other's differences. To this extent in the culturally responsive classroom environment: everyone's views are valued and seen as important, strong relationships and support among students and between students and instructors. These four concepts were identified as representations of a culturally responsive classroom climate. Therefore, it is expected that in classrooms with high degree of cultural responsiveness: students individual cultural as well as that of others are validated; there are different strategies being used to communicate, assess and challenge students academically, socially, and politically; linguistic differences are viewed as a tool to facilitate learning and there is sensitivity to differences involving language and finally individuals feel connected to and respect each other.

Despite the anticipated high correlations among the factors, the four factor structure subsumed by a higher order construct potentially provides range for assessing quality and degree of cultural responsiveness in the classroom. In other words, assessing cultural responsiveness in the classroom could potentially reveal that the classroom may

only represent superficial or low quality in some dimensions of cultural responsiveness and moderate to high in others. Examining these assumptions is beyond the scope of the present study but in developing the measure and conceptual definitions these assumptions were made and will provide avenues for follow-up studies. The purpose of the present study was to: 1) identify and develop conceptual definitions for the salient features of a culturally responsive classroom climate and 2) develop and validate a measure of responsiveness using exploratory and confirmatory factor analysis to examine the validity and reliability of a second order four factor structure.

CHAPTER 3. METHODOLOGY

3.1 Participants

A convenience sample of students enrolled in education, statistics, and social science classes were recruited to complete the survey which included 27 items. Some professors awarded extra credit for completing the survey while others did not. In addition to completing the 27 items participants were asked to complete a demographic questionnaire. A total of 113 students completed the survey. After data cleaning procedures involving checking for univariate, multivariate outliers and missing data the final sample included 109 participants who had 100% or 95% completion. Those who had missing values, the series mean was used to estimate missing values since it was clear data were missing at random and was scattered throughout. Table 2 summarizes demographics of the sample which involved 109 participants 21 identified as male and 86 as female with one person declining to respond and one did not report.

Table 2

Summary of Demographics

Demographic Variable	Responses (Frequency)
Learned English as second language	Yes (10) No (99)
Length of time in the US	Native (69) 1-2 years (2) 3-5 years (5) More than 6 years (33)
College Classification	Freshman (27) Sophomore (43) Junior (24) Senior (11) Graduate (3)
Gender	Male (21) Female (86) Decline to Respond (1)
Language Spoken Besides English	Spanish (18) Chinese (Mandarin) (8) Korean (2) Multiple (2) None (42)
Ethnicity (Self – Identified)	White Non-Hispanic (2) Chinese (2) Korean (1) White/Caucasian (81) Asian (7) African American (3) Indian (1) Chinese American (1) Polish (1) American (2) Hispanic (2) White Hispanic (1)

3.2 Procedure

After identifying the four main factors, specific items were written based on the conceptual definitions described previously. The items were meant to be general as the initial purpose was merely to identify the different factors and whether the theoretical assumptions on the validity of this construct as represented by four factors was justified. The list of items created based on the specified factors (concepts previously described) are shown in APPENDIX A. An initial list of 27 items was created and small pilot study involving about 20 participants was conducted as part of a class project. Participants in the pilot study included students who were second language learners and they were asked to provide feedback on whether items were clear and easily understood. Some slight modifications were made as students' interpretation of some of the items were not as they

were conceptualized by the researcher. Therefore, minor manipulations to certain words in some items were made.

All items on the scale were positively worded so as to not cause confusion or introduce possible error in interpretation. Students were asked to rate the extent to which they agreed with the statement on a seven point Likert scale ranging from *1 Strongly Disagree* to *7 Strongly Agree*. Only the two ends of the scale were anchored. Therefore, students could rate the item along the 7-point scale based on the degree to which they agreed with the statement as being representative of what happens in their classroom as opposed to being forced to choose an option of disagree, somewhat disagree, or somewhat agree etc. Sample item: My instructor creates a welcoming environment for students to learn. Because all items were positively worded higher scores on the subscale (individual factor) would represent a high degree of cultural inclusion, diverse pedagogical use, diverse language sensitivity or inclusiveness. High scores on all the subscales would mean the overall classroom climate is highly culturally responsive while lower scores would mean low degree of cultural responsiveness or lower degree on the specific factor.

3.3 Analysis

The factor structure was examined using factor analysis procedures – Exploratory Factor Analysis (EFA) and Confirmatory Factory Analysis (CFA). The aim of factor analysis is to “describe and summarize data by grouping together variables that are correlated” (Tabachnick & Fidell, 2001 p. 583). First, EFA using principal axis factoring extraction with direct oblimin rotation (oblique rotation used when factors are correlated) was used to extract factors and identify the items to be considered for the CFA. Second, the CFA

was conducted confirm the presence of the hypothesized four factors and whether they would be represented by the higher order factor. Fit indices were examined to determine whether the model represented adequate or a good fit based on the data.

The EFA procedure is primarily used to consolidate variables and for generating hypothesis while the CFA procedure is primarily used to test a theory about underlying processes (Tabachnick & Fidell, 2007). Because the aim in this study was to examine whether the four factors identified was present and the second order factor structure, the CFA procedure was the main focus. However, because the items were not modified or taken from other measures; rather, they were created based on conceptualization of the factors from a review of the frameworks, the EFA was first used to extract those items which represented the four factors and would be used in the CFA.

Prior to conducting the analysis, some practical issues concerning sampling adequacy, needed to be addressed due to the small sample size. Tabachnick and Fidell (2007) cite (Comrey and Lee (1992) who suggested guidelines for sample sizes to conduct factor analysis; sample size of 50 is seen as very poor, 100 as poor, 200 as fair, 300 as good, 500 very good and 1000 excellent. Because the current sample would be classified as poor ($n=109$), the factorability of the sample was tested by examining the Kaiser–Meyer–Olkin (KMO) and the Bartlett’s test of sphericity. The KMO is a measure of sampling adequacy and values above .6 are recommended in order to conduct factor analysis (Tabachnick and Fidell, 2007). The Bartlett’s test is used to determine whether the correlations are zero and is recommended if there are fewer than five cases per variable (Tabachnick & Fidell, 2007). Both criteria for factorability were met as the

KMO was .878 and the Bartlett's test of sphericity was significant at less than .01 for the current sample.

3.4 Factor Extraction Criteria and Item Retention.

For the EFA procedure, 24 instead of 27 items were entered in the analysis. Three items were removed because of significant skewness which could potentially influence the results (*see Appendix A for items removed). Items were written specifically for the factors. Therefore, the number of factors to extract was specified, four for the hypothesized four factor model. The items that were extracted to form the four factor structure were also used to examine a three factor competing model for fit using CFA. This was done to ensure that the comparison between the models included the same set of items.

Items were retained if the factor loading was .40 or greater and whether the item loaded on the hypothesized factor for the four factor structure. The minimum number of items required to form a factor is three (Tabachnick & Fidell, 2007). Therefore, factors with three or more of the specified items with factor loadings above .40 were retained. Items with cross – loading of .30 were retained provided it loaded on the specified factor and the discrepancy between the factor loadings was greater than .15. These strict criteria were adopted because the primary aim was to examine the factor structure based on the theory using CFA which does not allow for much exploration. The specified criteria values for extraction and item retention were chosen based on recommended best practices by (Worthington & Whittaker, 2006) and guidelines suggested by (Tabachnick & Fidell, 2007). Decisions to retain factors and items were not only made based on statistical considerations but based on interpretability of the factors, items and theory. An

EFA was used for three factor structure in order to specify which items would load together to form the three factors. Internal Consistency Reliability analysis for each factor extracted was also examined based on Cronbach Alpha. Cronbach Alpha has been a widely used statistic to examine the degree to which measurement items demonstrate consistency and homogeneity of constructs.

CHAPTER 4. RESULTS

4.1 Exploratory Factor Analysis.

The results of the EFA procedure are summarized in Table 3. Table 3 represents the pattern matrix based on factor rotations. The pattern matrix is reported as it reports the unique relationship between the variables (i.e. the items) and the factors (inclusiveness etc.). Generally, factor loadings above .71 are seen as excellent, .63 very good, .55 good, .45 fair and .32 poor (Comrey & Lee, 1992 cited in Tabachnick & Fidel, 2007). Factor loadings for the pattern matrix ranged from .45 to .89. To produce the factor solution items were removed one by one and replaced occasionally in order to produce a valid structure which was interpretable. Only fifteen items from the initial 24 were retained which explained 64.19 % of the variance. In other words, the items representing the four factors of cultural responsiveness explained 64% of the variance in cultural responsiveness. All factors also had an initial Eigen value which was greater than one. The inclusiveness factor explained (45% variance; Eigenvalue 7.16), followed by the cultural inclusion factor (7% variance; Eigenvalue 1.41), then diverse language (7% variance; Eigenvalue 1.35) and finally diverse pedagogy (variance 4.896; Eigenvalue (1.08)).

Evidently, one item that did not load on the original hypothesized factor was retained on the inclusiveness factor because that item clearly loaded on that factor without cross loading and the wording appeared to be more consistent with the conceptual definition of inclusiveness than for diverse language. Additionally, this item contributed significantly to the interpretability of the inclusiveness factor and the overall measure. Other items which loaded on other factors, were not retained because of cross – loading or because they did not meet the overall conceptual definitions for the factor.

Therefore, in all, there were 4 items representing inclusiveness, 4 for cultural inclusion, 4 for diverse pedagogy, and 3 for diverse language. The internal consistency for each factor based on the Cronbach Alpha measure of reliability (extent to which the group of items are closely related) were higher than generally acceptable in social science research (reliability coefficient of .70 or higher is acceptable reliability for a measure). Reliability coefficients are also reported in Table 3. The correlations between the factors were also reasonable. Analysis revealed correlation coefficient between inclusiveness and cultural inclusion as .46; between inclusiveness and diverse language .39 and between inclusiveness and diverse pedagogy .54. The correlation between cultural inclusion and diverse language was .41 and for diverse pedagogy .47. Diverse language and diverse pedagogy was correlated .40. Taken together the results of the EFA procedure produced an interpretable four factor solution providing evidence for the overall factor structure of the measure with acceptable factor loadings and correlations among the factors. Reliability coefficients for each factor also provided evidence that the items for each factor are closely related. The overall measure including all four factors (15 items) reliability was Cronbach's Alpha .91.

A competing second order three factor model was also examined which was observed by previous researchers (Dickson, Chun & Fernandez, 2016). In order to determine the factor loadings for specific constructs in the 3 factor model, EFA was performed on the 15 items but specified that only 3 factors were to be extracted. The results are provided in Table 4. Goodness of fit indices were examined to compare model fit for both models.

Table 3

Factor Loadings, Means, Standard Deviations, Communalities (h²) for Principal Axis Factoring with Direct Oblimin Rotation

Items:	Mean	SD	Inclusiveness ($\alpha=.87$)	Cultural Inclusion ($\alpha=.87$)	Diverse Language ($\alpha=.78$)	Diverse Pedagogy ($\alpha=.83$)	h ²
My instructor encourages students to be mindful of other students' perspectives	6.08	.92	.89				.86
I feel that my instructor treats everyone the same regardless of their differences	6.14	1.01	.76				.72
My instructor encourages students to be respectful of other students perspectives	6.07	.92	.56				.58
*I feel comfortable responding when my instructor asks questions.	5.63	1.22	.45				.59
My instructor provides examples which relate to my cultural background	5.27	1.28		.87			.74
My instructor uses examples from different cultures to explain concepts	5.24	1.28		.73			.62
My instructor seems to have an understanding of my culture	5.40	1.21		.68			.71
My instructor shows interest in my cultural background	4.83	1.27		.55			.63
My instructor is open to students expressing themselves in their native language in class	4.95	1.34			.86		.81
My instructor allows students to use their native language in class during small group discussion	4.99	1.39			.74		.52
My instructor allows students to express themselves in their native language.	4.79	1.49			.52		.47
My instructor provides opportunities for students to learn from one another	5.66	1.15				.72	.61
My instructor provides enough opportunities for me to show I understand the content taught in class	5.47	1.35				.66	.70
My instructor uses different forms of instruction to help students understand content	5.23	1.41				.66	.58
My instructor uses multiple forms of assessment for students to demonstrate understanding of course	5.39	1.47				.63	.48

Table 4

Factor Loadings, Communalities, Eigenvalues and Percent of Variance for Principal Axis Factoring Extraction and Direct Oblimin Rotation

Items	Factor 1	Factor 2	Factor 3	h ²
My instructor provides enough opportunities for me to show I understand the content taught in class	.853			.68
My instructor provides opportunities for students to learn from one another	.824			.54
My instructor encourages students to be respectful of other students perspectives	.699			.56
My instructor encourages students to be mindful of other students' perspectives	.693			.60
I feel that my instructor treats everyone the same regardless of their differences	.693			.58
*I feel comfortable responding when my instructor asks questions.	.585			.58
My instructor uses different forms of instruction to help students understand content	.559			.38
My instructor uses multiple forms of assessment for students to demonstrate understanding of course	.468			.42
My instructor provides examples which relate to my cultural background		-.894		.75
My instructor uses examples from different cultures to explain concepts		-.745		.63
My instructor uses examples from different cultures to explain concepts		-.678		.71
My instructor shows interest in my cultural background		-.511		.58
My instructor is open to students expressing themselves in their native language in class			.899	.84
My instructor allows students to use their native language in class during small group discussion			.708	.48
My instructor allows students to express themselves in their native language.			.529	.47
Eigen Values (Percent of Variance)	7.16 (47.74)	1.41 (9.41)	1.35 (9.0)	

4.2 Confirmatory Factor Analysis

To test the theoretical assertion that cultural responsiveness was a higher order construct represented by four sub – constructs (i.e. inclusiveness, cultural inclusion, diverse pedagogy and diverse language) a CFA was conducted based on the items extracted from the EFA procedure described previously. A competing second order three factor model was also examined which was observed by previous researchers (Dickson, Chun & Fernandez, 2016) using the 3 factor solution described in Table 4.

The CFA analysis was conducted using Maximum Likelihood (ML) estimation. The second order model with four factors representing cultural responsiveness produced adequate fit for the data with two correlated errors $\chi^2 (84) = 142.48, p < .001$, comparative fit index (CFI) = .94, normed fit index (NFI) .86, incremental fit index (IFI) = .94, Goodness of Fit Index (GFI) = .88, root mean square approximation (RMSEA) = .08 with 90% confidence interval (.056, .102), standardized root mean square residual (SRMR) = .06. Taken together these fit indices suggest a model with adequate or acceptable fit for the data. Tabachnick and Fidel (2007) cite several references for acceptable fit indices which report CFI, IFI, NFI above .95 represents a good fitting model while indices above .90 suggest adequate fit; SRMR below .08 are desired while RMSEA values greater than .10 indicate poor fitting models. The model for the second order four factor model is presented in Figure 1.

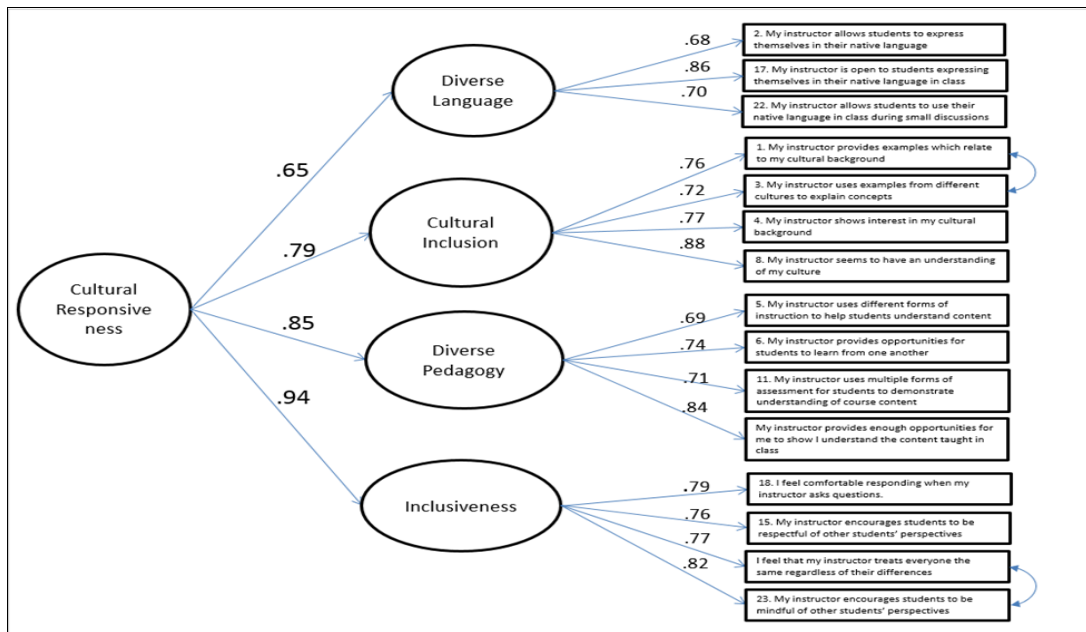


Figure 1. Second Order Four Factor Model with Factor Loadings

Examining the fit for the second order model with three sub – factors (i.e. where cultural responsiveness is represented by 3 not 4 sub – factors). The CFA analysis was also conducted using Maximum Likelihood (ML) estimation. The second order model with three factors representing cultural responsiveness produced only a marginally adequate fit after adding the two correlated errors $\chi^2 (85) = 168.64, p < .001$, comparative fit index (CFI) = .91, normed fit index (NFI) .84, incremental fit index (IFI) = .91, Goodness of Fit Index (GFI) = .84, root mean square approximation (RMSEA) = .095 with 90% confidence interval (.07, .12), standardized root mean square residual (SRMR) = .07.

Considering these results, the second order model with four sub – factors seems to provide a better model fit than the second order 3 sub – factor model. Examining the difference in chi square it is evident that estimating the additional parameter of the fourth factor produced a significant reduction in the chi square. The difference between chi square value for both models for a difference in 1 degree of freedom was equal to 26.16 which is statistically significant $p < .001$.

CHAPTER 5. DISCUSSION

The purpose of the study was to identify the main factors to consider for assessing a culturally responsive classroom climate and to examine the factor structure and reliability of the factors identified. Based on a review of the different frameworks and conceptualizations of cultural responsive teaching, four factors were identified and defined by integrating common themes across the different frameworks. The four factors identified were *cultural inclusion*, *diverse language*, *diverse pedagogy*, and *inclusiveness*. Exploratory factor analysis produced a four factor structure with 15 items, factor loadings ranging from .45 to .89 and correlation between factors ranging from .39 to .54. Confirmatory Factor Analysis was conducted to test the hypothesis that cultural responsiveness was a second order factor represented by the four sub – factors identified from the literature review. The results produced a model which was in line with the hypothesis and conceptualized constructs. An alternative second order three factor model representing cultural responsiveness was also tested. The results revealed that the hypothesized model was a better fit for the data than the second order three factor model. Based on these results the need for the fourth factor was supported.

These results provide: 1) evidence of four important aspects to consider in cultivating a culturally responsive classroom environment, 2) initial evidence of a valid

and reliable means of assessing students' perceptions of the classroom climate at the college level, and 3) the expansion of a previously conceptualized theoretical model of assessing cultural responsiveness. It is not assumed that the items presented in the measure of cultural responsiveness represent the complete assessment of all the factors and variables relevant to the culturally responsive classroom climate. However, this measure is proposed as a proxy for the general aspects of the culturally responsive climate which can be used as means of diagnosing how students perceive the overall classroom climate. It provides insights on how students are interpreting interactions and practices in the classroom and can open the door for further examination.

The research on culturally responsive teaching and classroom environments have traditionally focused on teachers' pedagogical practices, dispositions and beliefs about enacting culturally relevant pedagogy particularly at the primary and secondary level. Han and colleagues (2014) in a collaborative self – study of culturally responsive educators defining, enacting and navigating culturally responsive pedagogy proposed a framework for enacting CRP in higher education, citing the need to fill a void in the use of CRP beyond P-12. They also cite Gorski, Davis, & Reiter, 2012; Ross, 2008 and Thomas & Vanderhaar, 2008, stating that the attention given to teacher educators in the discussion of culturally responsive teacher education, whose aim is to develop culturally responsive teacher educators is minimal. The present work provides the means whereby we can begin to expand the assessment of the classroom climate within the context of college classrooms by not only focusing on students' perceptions of the psychosocial factors that influence their motivation, engagement and achievement outcomes. Rather it

is possible to assess students' perceptions of the cultural and structural factors that influence their lived experiences, learning and overall development.

The current study provides greater clarity on the theoretical and conceptual distinctions for the culturally responsive classroom climate. This also allows us to explicitly examine how students' cultural identities may influence how they perceive their interactions with students in the classroom, the instructor and the overall classroom climate. Specifically, in the context of higher education classrooms assessing the different aspects of the culturally responsive classroom provides the means by which educational outcomes, beyond academic achievement and cognitive development can be examined. Sleeter (2012) states

...there is a clear need for evidence-based research that documents connections between culturally responsive pedagogy and student outcomes that include, but are not necessarily limited to, academic achievement. Politically, it is difficult to build a case to change approaches to teaching without strong evidence (p.578).

The fourth factor proposed in the present study was important for two reasons. First, it provided a more explicit focus on the critical aspects of reflection and pedagogy which the culturally responsive teaching frameworks propose. One primary outcome of culturally responsive teaching is the development critical consciousness and awareness about diverse and complex sociopolitical issues (Gay, 2000, 2002; Ladson – Billings, 1995a). Additionally, a primary assumption in culturally responsive teaching and multicultural education is the classroom as a site for social change (Aronson & Laughter, 2015). The college classroom provides a context for reflecting and developing consciousness of critical issues related to cultural diversity, power, and privilege in society. Furthermore, developing the sociopolitical consciousness is an expected outcome

of higher education to help students become citizens in the society. Consequently, examining this factor explicitly as part of the culturally responsive classroom climate allows instructors to reflect on their pedagogy, beliefs and practices and students to reflect on their learning and beliefs. This is a crucial aspect of the culturally responsive classroom which is evident both theoretically and practically.

Second, the fourth factor provides range in distinguishing different aspects of the classroom to provide more intentional focus on different aspects of the teaching and learning process. The factors of cultural responsiveness are highly correlated. It is clear from the three factor solution that the inclusiveness and diverse pedagogy factor merged together to form the third factor. This suggests that the types of pedagogical practices and curricular used is related to the level of connection and relationships that are formed in the classroom. Certain pedagogical approaches allow for fostering greater sense of belonging in creating a safe space. However, the culturally responsive classroom calls for explicit focus and challenge of political and social issues to act as means of empowerment for social change. Therefore, separating and assessing this critical component is crucial to seeing the expected outcomes of a culturally responsive classroom. The fourth factor proposed in the present study, the results suggests potentially provides the range to intentionally assess and cultivate classroom environments which lead to educational outcomes which represent the 21st century higher education context.

The examination of only psychosocial and cognitive factors that relate to classroom climate limits the claims to be made about meeting educational outcomes related to democratic citizenship, cultural competence, civic and cultural identity.

Smith and Silvia (2011) conducted a meta-analysis of research examining the relationship between ethnic identity and personal well – being among individuals’ self – identified as African American, Asian American, Hispanic/Latino (a) American, Native American, and/or Pacific Islander American. They analyzed data from 184 studies and reported that there were modest relationships (omnibus effect size $r=.17$; $r=.1$ is small $r=.3$ is medium and $r=.5$ large) between ethnic identity and personal well – being. Gurin, Dey, Hurtado and Gurin (2002) examined the effects of classroom diversity and informal interaction among African American, Asian American, Latino/a, and White students on learning and democracy outcomes. They found positive relationships between diversity experiences and educational outcomes. Positive effects were found to be consistent across learning and democracy outcomes and across national and single institutional studies involving different groups of students. Han and colleagues (2014) reported student resistance as a major challenge to enacting culturally responsive or relevant teaching practices in their classes. Some students demonstrated resistance while others were receptive. It is important to consider in addition to the psychological needs of the students, the cultural needs and structural factors which may guide students’ perceptions of instructor practices and ultimately the overall perceived classroom climate. These have implications for educational and personal outcomes for students.

The results of the present study must be interpreted by considering some important methodological limitations. First, the size of the sample limited the extent of the analysis which could be conducted. Items had to be removed because based on the distributions, including those items in the analysis could significantly influence the results. Additionally, the sample was not as diverse and representative of students from

an array of ethnic, and academic backgrounds. This limits to some degree claims of generalizability to other classroom contexts. However, the items created represent general aspects of the classroom. Therefore, it would be expected that whether in a largely multicultural classroom or a homogenous classroom the factors would still be relevant. This measure was developed with the reasoning that culturally responsive teaching and by extension a culturally responsive classroom climate is beneficial for all students in all contexts. This represents the concept of cultural needs. All students within the classroom, despite being from different or the same ethnic, cultural, linguistic, religious or identifying by same or different gender orientations, desire to feel that their unique differences are validated. The factors identified as part of the culturally responsive classroom climate represent the wide range of these differences.

Second, the EFA and CFA procedure were conducted using the same sample. This is not the typically accepted practice. However, due to practical and logistical issues related to data collection and participant recruitment it was a challenge to get a large enough sample to split the EFA and the CFA analysis across the studies. Another limitation to consider is the construction of items. The factor structure in EFA is extremely sensitive to the removal and addition of items which could significantly change the overall structure. Introducing an item that is not adequately correlated with other items and the factors can result in error and affect the overall factor structure. Therefore, a simple difference in one or two words in a statement could significantly change students' interpretation of the items and thus their response.

An additional point of criticism would be the wording of the items and the fact that the items selected might not fully represent the overall conceptual definition. This

criticism is justified and provided the basis for conducting the second study (not discussed in this paper). Modifications were made to items in the second study and additional items included in order to provide a better representation and explain more of the variability in cultural responsiveness and the related factors (See Appendix C for new items). Notwithstanding these limitations, this exploratory study has provided insights into the factors to assess as part of the culturally responsive classroom beyond the psychosocial factors. Additionally, the present work provides evidence supporting the conceptual expansion of a previously tested model of culturally responsive teaching by introducing a second order four sub – factor model as an extension to the previously tested second order three sub – factor model proposed by (Dickson, Chun & Fernandez, 2016).

5.1 Importance of Culturally Responsive College Classroom

The reasons for examining cultural responsiveness in college classrooms can be considered broadly as it relates to individual psychological, sociocultural and sociopolitical factors (e.g. sense of belonging, ease of transition into college culture and climate, citizenship identity, global and cultural competencies). However, these reasons are also influenced by institutional and political factors (e.g. increased access to higher education for traditionally underrepresented students; internationalization, student mobility and globalization). These factors although seemingly disparate are interrelated. Access to education for traditionally underrepresented groups continues to increase. This has often been described in the literature as the demographics of the classrooms are changing. This change in demographics is at all educational levels not just in the United States but across the globe (Hue & Kennedy, 2014; Rueda & Stillman, 2012).

The emphasis on culturally responsiveness at the primary and secondary level but not postsecondary level presents a dissonance for students. This dissonance primarily affects those from underrepresented backgrounds and those who are in the minority (e.g. international students) entering and already in institutions of higher education. The transition to college presents challenges with adjusting academically, socially, emotionally and in many cases culturally (e.g. international students, or students from different ethnic and linguistic backgrounds attending institutions which represent the dominant cultural group). This also brings about increased stress, and anxiety which affects students' well – being and academic performance (Clark, 2005). Creating a space where all students feel a sense of belonging, connection to others and where their individual identities are validated, is paramount to facilitating the transition to postsecondary education.

Globalization and internationalization (Carnoy, 2014; Knight, 2013; Stromquist & Monkman, 2014) are two major factors influencing the change in demographics of classrooms across the globe in higher education as well as institutional policies and initiatives in post-secondary institutions. Students travel abroad to study for a semester, a year or a few weeks as a way of developing knowledge and skills that will prepare them for the working world. Universities are constantly trying to improve the diversity of their campuses as a means of developing international status. Employers are demanding that students demonstrate global and cultural competencies that represent the demographics of the workplace which is diverse on many levels. It is expected that students are able to communicate and work with others who are different (e.g. race, nationality, ethnicity, sex, gender, religious and political beliefs).

In addition to the aforementioned factors, the need for culturally responsive classrooms in higher education is further justified by the foundational principles of education. One of the primary foundational functions of the education system, particularly higher education, has been to develop individuals to become active participants and contributing members of the political and social discourses of society i.e. becoming “effective citizens”. Therefore, if the culturally responsive classroom is needed for nothing else, it is needed to fulfill the fundamental purpose of education – to prepare citizens to be active and contributing members to the society. Cultivating culturally responsive classrooms fulfills this objective by cultivating a space where diversity as it is seen in society is validated, acknowledged, respected and discussed through pedagogical practices and interactions among educators and students and among students themselves.

CHAPTER 6. CONCLUSION AND FUTURE DIRECTIONS

This initial work and its further expansion provides: evidence of what a culturally responsive classroom looks like and could look like based on theory in the context of higher education; it expands the current literature regarding how cultural responsiveness is conceptualized and operationalized; it provides the means of connecting culturally responsive teaching practices to student outcomes not limited to academic achievement, motivation and engagement but including citizenship, civic identity and intercultural competence. Additionally, it also challenges researchers and instructors to expand their conceptualization of what it means to cultivate a positive or inclusive classroom climate. This extends beyond being socially responsive, but culturally responsive as well. Cultural responsiveness is not a new concept but research on assessing the construct at the postsecondary level is sparse. To date, classroom environment research has almost exclusively focused on the psychosocial elements of the classroom climate. The introduction of a measure of cultural responsiveness allows researchers to examine further the different dimensions of the classroom environment which contribute to student interest, motivation, engagement, psychological, and cultural development. Additionally, by assessing cultural responsiveness it advances previous work which

suggests that culturally responsive teaching practices work for all students. This has been demonstrated at the primary and secondary level.

The current demographics of the classroom, changes in university policies to increase diversity and a push to facilitate student development of intercultural and cross – cultural competences warrants the examination of cultural relevance and responsiveness in college classes. Additionally, the literature on the benefits and outcomes of fostering active learning autonomy – supportive, mastery – oriented learning environments which focus on the social climate of the classroom is vast. However, considering the cultural responsiveness of the environment adds another element to consider in the classroom which impacts not only the student but the instructor.

Cultivating a culturally responsive classroom environment requires that the instructor first reflects on their own beliefs, biases, and opinions about issues of race, gender, ethnicity, power and privilege in addition to their pedagogical approach. Furthermore, because it is the instructor's job to create the classroom climate, it is expected that the dispositions that the instructor brings to the classroom will impact what and how students learn as well as the overall classroom climate. Students in the culturally responsive learning environment similarly have to reflect on their own biases and opinions concerning the aforementioned issues. The culturally responsive classroom supports reciprocity. In addition, students also have to adapt their approach to learning and studying.

The culturally responsive classroom is not unlike an autonomy – supportive, constructivist, mastery – oriented or active learning classroom environment. They all share similar elements. However, within the culturally responsive learning environment,

the instructors as well as the students are challenged to expand their thinking beyond their individual beliefs, biases, and opinions. This is not only as it relates to the content that is studied but their interactions with others in the present and the future in different contexts. Assessing the extent to which the classroom climate is culturally responsive allows researchers, instructors and students to see the diverse combinations of factors that contribute to learning and holistic development.

Despite the focus throughout this paper on the need for culturally responsive classroom environments; the objective is not to disregard the psychosocial factors that contribute to the classroom climate. This research will expand to incorporate assessment of the aspects of a socially and culturally responsive classroom climate by integrating different motivation and learning environment frameworks with multicultural education. This facilitates examining the combination of psychosocial, cultural, and structural factors within the overall educational context that influence student outcomes and development.

The classroom climate is not perceived as merely being socially or culturally responsive. Rather it is a move toward a socially and culturally responsive classroom. Integrating these concepts will require researchers to transcend theoretical boundaries. The current educational climate, changes in the structure and operations of higher education demands such an approach. It is important that researchers expand their theoretical frames to incorporate not just one view but multiple views within the same discipline or field and extend into other areas of research which examine similar concepts. The future directions for this research will seek to integrate different

motivational perspectives on classroom climate with multicultural education research to provide evidence and models for advancing teaching and learning.

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APPENDIX

APPENDIX

Items Created and Tested in Culturally Responsive Classroom Climate Scale

*Items not included in EFA procedure due to skewness.

Diverse Language

My instructor allows students to express themselves in their native language
 My instructor allows non – native English speakers time to respond to questions
 My instructor uses language that I can understand
 My instructor is open to students expressing themselves in their native language in class
 I feel comfortable responding when my instructor asks questions.
 My instructor allows students to use their native language in class during small discussions
 I feel that communicating with peers in a native language helps students understand the content more clearly.

Cultural Inclusion

My instructor provides examples which relate to my cultural background
 My instructor uses examples from different cultures to explain concepts
 My instructor shows interest in my cultural background
 My instructor seems to have an understanding of my culture
 *My instructor encourages students to apply material to their own experiences
 *My instructor asks students how the material relates to their previous knowledge or thoughts
 My instructor seems to be aware of differences in students' cultural background

Diverse Pedagogy

My instructor uses different forms of instruction to help students understand content
 My instructor provides opportunities for students to learn from one another
 My instructor relates course content to real world examples
 My instructor uses multiple forms of assessment for students to demonstrate understanding of course content
 My instructor provides enough opportunities for me to show I understand the content taught in class.

Inclusiveness

*My instructor treats all students with equal respect
 I feel comfortable expressing my opinions in this class.
 My instructor encourages students to be mindful of other students' perspectives
 I feel comfortable expressing my beliefs in this class
 My instructor creates a welcoming environment for all students
 I feel comfortable in this class
 I feel that my instructor treats everyone the same regardless of their differences